Asa Hutchinson
Governor

ARKANSAS DEPARTMENT OF AGRICULTURE

1 Natural Resources Drive, Little Rock, AR 72205
agriculture.arkansas.gov
(501) 225-1598

Wes Ward
Secretary of Agriculture

August 12, 2021

Attn: Tawanda Maignan
Emergency Response Team
USEPA/ Office of Pesticide Programs
Document Processing Desk (EMEX)
Room S4900, One Potomac Yard
2777 S. Crystal Drive
Arlington, VA 22202

Dear Ms. Maignan:

The Arkansas Department of Agriculture (ADA) has declared a crisis emergency that requires the use of Endigo ZC lambda-cyhalothrin and thiamethoxam, for control of rice stink bug, *Oebalus pugnax,* in rice in Arkansas. The ADA is requesting the use of lambda-cyhalothrin (CAS number 91465-08-6) and thiamethoxam (CAS number 153719-23-4), Endigo ZC (EPA Reg No. 100-1276), in accordance with 40 CFR 166(c), under a Crisis Emergency Exemption.

Arkansas rice producers are experiencing severe infestations of rice stink bug in all rice producing counties. One of the factors causing the increase pest populations is environmental conditions. Rice stink bug (RSB) is the major pest of heading rice in Arkansas. According to University of Arkansas, Extension Entomologists rice stink bug is a yearly pest of rice that begins infesting rice fields as rice begins to head. Yield loss can occur if feeding happens during the flowering and milk growth stages. Feeding will lead to quality losses or "pecky" rice. Heavy infestations of stink bug can cause damage exceeding 10% yield loss if is not controlled.

During 2021 observations have shown a large numbers of rice stink bugs in most fields, with multiple fields needing to be treated two to three times. In most years, control of rice stink bug is achieved with the pyrethroids labeled for use in rice (lambda-cyhalothrin and zeta-cypermethrin). This year pyrethroids are providing between 20-60% control depending on the population. Extension entomologist have been receiving reports of pyrethroid failures and observing them in test plots due to little residual from pyrethroids.

Alternative products labeled for rice stink bug control, such as Malathion, Carbaryl, and Dinotefuran are in extremely short supply. Extension entomologists have reported that both retailers and the manufacturer of dinotefuran confirmed that, due to production issues in the winter caused by the COVID-19 pandemic, supply has been exhausted since mid-July.

Extension Entomologists reported that limited supply of malathion is available, and distributors suggest it will be sold out by mid-August. Carbaryl is a good alternative, however many foreign ports are testing for carbaryl residue and have rejected multiple barges of rice in the past three years for having low levels of carbaryl present. Carbaryl is not a recommended option for this reason.

Due to adverse weather conditions during planting and the flooding event that happened the first week of June, currently only 35% of the 1.2 million acres of rice is heading in Arkansas. During the first week of June, all rice producing counties in the central and south-central part of state received between 10 and 20 inches of rain in a 4 day period (https://www.weather.gov/lzk/jun2021.htm)

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Reports show that many fields were destroyed by flooding causing many growers to replant due to flooding, and many fields were estimated to have already sustained 10 to 20% yield reduction due to late (re)planting. In areas of Arkansas that were most heavily affected by the flooding, growers have spent in excess of $300 per acre specifically on replanting costs. This coupled with the pressure observed from rice stink bugs will be devasting for Arkansas rice growers.

Adverse environmental conditions will play a major role in the quality of rice and impact yields this year, and the rice stink bug density currently observed has the potential to decrease both drastically. However, inability to effectively control the pest due to lack of effective insecticides will be a primary reason for additional yield losses and high control costs. Currently labeled insecticides are not effective or at least not available. The level of control achieved to this point has seldom exceeded 50% with even the most effective treatments and as often much poorer. This level of control is not sufficient to provide effective crop protection against the extremely high populations of rice stink bug that are present in many fields and will result in the need for growers to apply multiple, close interval applications at high rates. Such treatments are economically devastating to producers and will result in greatly increased amounts of pesticide being introduced into the environment.

The rationale for requesting an emergency exemption is that experts are expecting the rice stink bug populations to continue for the rest of the season. Based on past experiences with rice stink bugs, the later rice heads the higher the density of pest observed. Although there are other insecticides that would provide adequate control, they are either in short supply or not available at all. Endigo ZC is a viable option and not expected to cause adverse effect to the environment.

The use period requested is from August 13 through August 27, 2021. It is estimated that 300,000 acres of rice will experience rice stink bug populations that require a treatment of Endigo ZC, with a portion of the acres requiring multiple applications. Endigo ZC will be applied aerially in all rice producing counties to treat up to 300,000 acres of rice. Endigo ZC will be applied at 4.5 ounces per acre to 6 ounces per acre with a maximum of 4 applications, not to exceed 18.5 ounces per acre per year. Preharvest interval is 21 days. Treated rice is anticipated to be harvested beginning September 25, 2021. A Section 18 tolerance has been established for Endigo ZC in rice.

The use directions are as follows:

Crop: Rice
Pest: Rice Stink Bug
Rate of Endigo ZC per Acre per Application: 4.5 – 6.0 ounces
Application Type: Aerial
Application Timing: Apply as required by scouting, usually at intervals of 5 or more days. Base timing and frequency of applications upon insect populations reaching locally determined economic thresholds. Target applications for control before insects enter the stem.
Maximum Endigo ZC Allowed per Application: Do not exceed a total of 6.0 fl. oz. of Endigo ZC per acre per application (0.055 lb ai of thiamethoxam and 0.04 lb ai of lambda-cyhalothrin).
Maximum Endigo ZC Allowed per Year: Do not exceed a total of 18.5 fl. oz. of Endigo ZC per acre per year (0.170 lb ai of thiamethoxam and 0.12 lb ai of lambda-cyhalothrin). Do not apply more than 6.0 fl oz of Endigo ZC per acre within 21 to 27 days of harvest. Endigo ZC may be used in the same year thiamethoxam is used as an at-plant seed treatment.
Pre-Harvest Interval (PHI): 21 days

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Minimum interval between applications: 5 days
Water Volume: Apply by ground or air equipment using sufficient water volume to ensure thorough coverage of foliage. Do not use less than 2 GPA for aerial applications. Do not apply as an ultra-low volume (ULV) spray. Adding an emulsified crop oil (e.g., 1 pt. per acre) when lower aerial application volumes are used is recommended to help improve coverage, reduce evaporation, and improve efficacy.
Flood Water: Do not release flood water within 7 days of an application.
Aquaculture: Do not use treated rice fields for the aquaculture of edible fish and crustacea.

A copy of the Section 18 Crisis Exemption Label is enclosed.

If you have any further questions regarding this request or need any other supporting information, feel free to contact me.

Respectfully,

Scott Bray

Scott Bray
Director
Arkansas Department of Agriculture
Plant Industries Division

RESTRICTED USE PESTICIDE
DUE TO TOXICITY TO FISH AND AQUATIC ORGANISMS
FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS, OR PERSONS UNDER THEIR DIRECT SUPERVISION, AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION.

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Section 18 Emergency Exemption

TO CONTROL RICE STINK BUG IN RICE IN THE STATE OF ARKANSAS

EFFECTIVE DATE: August 13 – August 27, 2021

Endigo® ZC
EPA Reg. No. 100-1276

KEEP OUT OF REACH OF CHILDREN.

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR INSECT CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Follow all applicable directions, restrictions, Worker Protection Standard requirements, and precautions on the EPA-registered Endigo ZC label (EPA Reg. No. 100-1276).

This label must be in the possession of the user at the time of application.

Any adverse effects resulting from the use of Endigo ZC under this exemption must be immediately reported to the Arkansas Department of Agriculture.

CROP USE DIRECTIONS

Crop	Pest	Rate of Endigo ZC per Acre per Application
Rice	Rice stink bug	4.5 – 6.0 fl oz

Use Restrictions:

- **Application Timing:** Apply as required by scouting, usually at intervals of 5 or more days. Base timing and frequency of applications upon insect populations reaching locally determined economic thresholds. Target applications for control before insects enter the stem.
- **Maximum Endigo ZC Allowed per Application:** Do not exceed a total of 6.0 fl. oz. of Endigo ZC per acre per application (0.055 lb ai of thiamethoxam and 0.04 lb ai of lambda-cyhalothrin).
- **Maximum Endigo ZC Allowed per Year**: Do not exceed a total of 18.5 fl. oz. of Endigo ZC per acre per year (0.170 lb ai of thiamethoxam and 0.12 lb ai of lambda-cyhalothrin). Do not apply more than 6.0 fl oz of Endigo ZC per acre within 21 to 27 days of harvest. Endigo ZC may be used in the same year thiamethoxam is used as an at-plant seed treatment.
- Up to four applications may be made by aerial application only.
- **Pre-Harvest Interval (PHI):** 21 days
- **Minimum interval between applications**: 5 days
- **Water Volume**: Apply by air equipment only using sufficient water volume to ensure thorough coverage of foliage. **Do not** use less than 2 GPA for aerial applications. **Do not** apply as an ultra-low volume (ULV) spray. Adding an emulsified crop oil (e.g., 1 pt. per acre) when lower aerial application volumes are used is recommended to help improve coverage, reduce evaporation, and improve efficacy.
- **Flood Water:** Do not release flood water within 7 days of an application.
- **Aquaculture:** Do not use treated rice fields for the aquaculture of edible fish and crustacea.

Registrant:
Syngenta Crop Protection, LLC
PO Box 18300
Greensboro, NC 27419

Label Code: AR1276053AB0821